IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants:	Peter A. Barany et al.	§ Art Unit:	2664
		§	
Serial No.:	09/715,787	§	
		§ Examiner:	Kevin D. Mew
Filed:	November 17, 2000	§	
		§	
For:	Interleaving Data Over Frames	§ Atty. Dkt. No.:	NRT.0072US
	Communicated in a Wireless	§	(12383RRUS02U)
	Channel	§	

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P.O. Box 1450
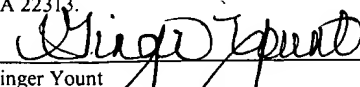Alexandria, VA 22313-1450

<u>PRE-APPEAL BRIEF REQUEST FOR REVIEW</u>

Dear Sir:

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a Notice of Appeal. Currently, claims 5-12, 14-16, 18-29, 37, and 38 have been allowed.

Independent claim 1 was rejected as being obvious over U.S. Publication No. 2004/0062274 (Hakansson) alone. It is respectfully submitted that a *prima facie* case of obviousness has not been established against claim 1 over Hakansson. Hakansson does not disclose or suggest interleaving *speech* data according to a first algorithm over plural frames for a first set of *speech* data, and interleaving *speech* data according to a *second* algorithm over plural frames for a second set of *speech* data. Hakansson describes a *single* interleaving scheme for speech data—diagonal interleaving. *See* Hakansson, ¶¶ [0011], [0018], [0021], [0057], [0064], claim 2. In Hakansson, a different interleaving

scheme is applied to certain SID frames (which cannot be considered speech data). Hakansson, ¶ [0027].

As conceded by the Office Action, Hakansson does not disclose interleaving speech data according to a second algorithm for a second set of speech data. 8/10/2005 Office Action at 2. Nevertheless, the Office Action stated that claim 1 is obvious over Hakansson in light of the fact that Hakansson discloses SID frames being interleaved according to a different interleaving algorithm. *Id.* at 3. The Office Action stated that "it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the interleaving schemes of Hakansson such that the second interleaving scheme called block interleaving scheme that applies to the SID frames is being used as a second algorithm to interleave speech data such as the block interleaving scheme disclosed in Hakansson." *Id.*

Applicant respectfully disagrees that there is any teaching or suggestion in Hakansson, whether implied or explicit, of a modification of the techniques used in Hakansson to apply the second interleaving algorithm to speech data rather than to SID frames. In ¶ [0018] of Hakansson, Hakansson states that applying a common interleaving scheme for SID and speech frames poses problems. To overcome these problems, Hakansson proposes a different interleaving algorithm for SID frames than for speech frames. However, there is absolutely no teaching or suggestion whatsoever in Hakansson of any need or desirability to use different algorithms for different sets of speech frames. "The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification." *In re Fritch,* 972 F.2d 1260, 1266, 23 U.S.P.Q.2d 1780 (Fed. Cir. 1992).

Although a person of ordinary skill in the art looking to the teachings of Hakansson would have recognized some benefits of using a second algorithm for SID frames, such a person of ordinary skill in the art looking to the teachings of Hakansson would not have been motivated to modify the Hakansson techniques to use different algorithms for different sets of speech data, as recited in claim 1.

The Office Action made the following additional observation:

> Furthermore, the Hakansson reference discloses that speech frames can be diagonal interleaved (see paragraph 0011) and block diagonally interleaved (see claim 26 of Hakansson) and the motivation to do so is to minimize the transmission delay of codec mode information in order to achieve the best possible performance of codec mode adaptation of a multimode communication system (see paragraph 0021).

8/10/2005 Office Action at 9.

These two passages of Hakansson cited by the Office Action do not provide any suggestion that two different interleaving algorithms can be used for two sets of speech data. Paragraph [0011] of Hakansson states that in the prior art, the same channel coding and diagonal interleaving is used for speech frames and for SID frames. Claim 26 of Hakansson distinguishes this prior art by reciting that speech frames are block diagonally interleaved and SID frames are block interleaved. Thus, a person of ordinary skill in the art looking to these passages of Hakansson would understand that the prior art to Hakansson uses the same interleaving for both speech frames and SID frames, while claim 26 of Hakansson purportedly improves on this by using block diagonal interleaving for speech frames and block interleaving for SID frames.

The Office Action also cited to U.S. Patent No. 5,091,942 (the "'942 patent") as somehow providing a motivation for modifying Hakansson to achieve the claimed invention. Specifically, the Office Action pointed to passages in column 1 (lines 21-25) and column 2 (lines 11-25) as supporting this suggestion. These cited passages of the '942 patent refer to enhancing the security of data communications within a system (column 1), and enhancing bandwidth of voice channels in a cellular radio telecommunications systems (column 2). It is unclear what relevance these passages have with respect to using different interleaving algorithms for two sets of speech data.

The Office Action also pointed to Fig. 2, in particular elements 108 and 110 of the '942 patent, as providing some motivation to modify Hakansson. Element 108 is a 2-burst interleaver, while element 110 is a 22-burst interleaver. The 2-burst interleaver 108 divides each data message to be transmitted by the mobile station ('942 patent, 8:29-32), while the 22-burst interleaver 110 divides the SACCH (slow associated control channel) data into 22 consecutive time slots ('942 patent, 8:43-46). Here, the 2-burst

interleaver is used for a data message, while the 22-burst interleaver is used for a control channel message. Thus, the '942 patent also fails to suggest any modification of Hakansson to achieve the claimed invention.

A more fundamental error made in the Office Action is the citation of the '942 patent for use in the obviousness rejection of claim 1 over Hakansson *alone*. The '942 patent was not relied upon by the Office Action for explaining how some concept disclosed in Hakansson would have been understood by a person of ordinary skill in the art. The passages of the '942 patent relied upon by the Office Action are completely unrelated to any teaching of Hakansson. Therefore, it appears that the '942 patent has no relevance in the obviousness rejection over Hakansson alone. If the obviousness rejection is based on the combination of Hakansson and the '942 patent, then a new ground of rejection has been raised against claim 1, which would require withdrawal of the final rejection.

In view of the foregoing, it is respectfully submitted that the obviousness rejection of claim 1 is defective and should be withdrawn. Independent claim 34 is allowable for similar reasons as claim 1.

In view of the clear legal and factual errors that have been committed in the obviousness rejection of claims 1 and 34 over Hakansson alone, it is respectfully requested that the obviousness rejection be withdrawn.

REJECTION UNDER 35 U.S.C. § 103 OVER
HAKANSSON AND U.S. PATENT NO. 6,084,865 (DENT)

Each of independent claims 39 and 41 was rejected as being obvious over Hakansson in view of Dent. It is respectfully submitted that claim 39 is not obvious over Hakansson and Dent for at least the following reason: the references when combined do not teach or suggest all elements of claim 30. *See* MPEP § 2143 (8th ed., Rev. 2), at 2100-129.

As conceded by the Office Action, the multiplexing feature of claim 39 is not disclosed by Hakansson. 8/10/2005 Office Action at 5. The Office Action relied, instead, upon Dent for this teaching. *Id.* at 5-6. Claim 39 further recites receiving a request from the first mobile station to re-acquire the wireless channel portion, where the

request is transmitted by the first mobile station in response to the first mobile station exiting a discontinuous transmission mode. Claim 39 also recites sending an assignment message to the first mobile station to assign the wireless channel portion in response to the request. The Office Action cited ¶¶ [0028] and [0084] of Hakansson as teaching the request receiving and assignment sending acts of claim 39. However, Applicant respectfully disagrees with this assertion in the Office Action, since ¶ [0028] refers to the transmission of first and second types of SID frames during source data inactivity, and transmitting a third type of SID frame to indicate a transition from source data inactivity to source data activity. Paragraph [0084] of Hakansson describes that when an inactive link resumes speech transmission, a codec mode corresponding to the last received codec mode request is selected. Neither of these passages of Hakansson refers to receiving a *request* from a mobile station to *re-acquire a wireless channel portion* in response to the first mobile station exiting this continuous transmission mode, and in response to the request, sending an *assignment* message to the first mobile station to *assign* the wireless channel portion.

The third type of SID frame noted in ¶ [0028] of Hakansson is used for indicating a transition from source data inactivity to source data activity. This third type SID frame does not constitute a request from the mobile station to *re-acquire* the wireless channel portion, as recited in claim 39. Paragraph [0084] refers to an inactive link resuming speech transmission, and a codec mode corresponding to the last received codec mode being selected due to resumption of speech transmission. This passage does not teach sending or suggest an assignment message to the first mobile station to *assign the wireless channel portion* in response to the request.

Therefore, even if Hakansson and Dent can be properly combined, the hypothetical combination of Hakansson and Dent does not teach or suggest all elements of claim 39.

Independent claim 41 is not obvious over Hakansson and Dent for similar reasons.

Therefore, it is respectfully submitted that legal and factual errors have been committed in the obviousness rejection of the claims over Hakansson and Dent.

In view of the foregoing, withdrawal of the final rejection of all claims is respectfully requested. The Commissioner is authorized to charge any additional fees and/or credit any overpayment to Deposit Account No. 20-1504 (NRT.0072US).

Respectfully submitted,

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Dan C. Hu
Registration No. 40,025
TROP, PRUNER & HU, P.C.
8554 Katy Freeway, Suite 100
Houston, TX 77024
Telephone: (713) 468-8880
Facsimile: (713) 468-8883